

NOTES ON CARIBBEAN DISCOMYCETES. II. TWO SPECIES OF  
PULVINULA FROM PUERTO RICO

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In the preliminary study of some Puerto Rican Pezizales, two species of Pulvinula Boud. have been encountered. This genus is characterized as follows: ascospores spherical (rarely ellipsoid), carotenoid pigments present (Arpin, 1969), paraphyses slightly bent to deformed, apothecia lenticular or shallow cupulate, ectal excipulum of textura globosa to textura angularis, and medullary excipulum of textura intricata. Pulvinula has been discussed taxonomically and nomenclaturally by Rifai (1968). The genus has never been monographed, thus the identification of species has remained difficult.

Thus far, the following species have been identified from Puerto Rico:

1. PULVINULA SALMONICOLOR (Seaver) Pfister, comb. nov.

= Lamprospora salmonicolor Seaver, Mycologia 17: 47. 1925.

Holotype: New York Botanical Garden,  
Exploration of Puerto Rico; N°. 551; on soil;  
F. J. Seaver and C. E. Chardon, Jan. 24 -  
April 5, 1923.

The holotype material is unfortunately in poorly preserved condition. One can, however, determine that the medullary excipulum is composed of small diameter cells which form textura intricata, as it is in Pulvinula. Though detailed anatomical comparisons are not possible, the morphology of the spores and form of the paraphyses leave little doubt as to its proper placement in Pulvinula.

This species is readily distinguished from other *Pulvinulas* by its large ascospores. The diameter of the spores is: 18.2 - 20  $\mu$ m. In rehydrated condition the apothecia are 4-5 mm in diameter and are convex. The color of the hymenium in fresh condition is reported as salmon; it is buff when rehydrated. To date, the fungus has not been recollected.

2. *Pulvinula globifera* (Berk. & Curt.) Le Gal sensu Rifai (1968).  
= *Peziza globifera* Berk. & Curt., Linn. Soc. (Bot.) 10: 366. 1868.  
= *Barlaea globifera* (Berk. & Curt.) Sacc., Syll. Fung. 8: 114. 1889.  
= *Humaria globifera* (Berk. & Curt.) Cooke, Handb. Austral. Fungi. p. 256. 1892.  
= *Barlaeina globifera* (Berk. & Curt.) Sacc. & Trav. in Sacc., Syll. Fung. 19: 139. 1910.  
= *Pulvinula globifera* (Berk. & Curt.) Le Gal, Prodr. Flore Mycol. Madagascar 4: 94. 1953. [misapplied = *Pulvinula orichalcea* (Cooke) Rifai]

The lectotype of *Pulvinula globifera*, as selected by Rifai (1968), was collected in Cuba. Rifai provided a redescription of the type, since there had been confusion concerning this species. According to Rifai the specimen described by Le Gal (1953) as *P. globifera* does not agree with the Cuban lectotype. For this species, described by Le Gal, Rifai has proposed the name *P. orichalcea*. I am here using the name *P. globifera* in the sense proposed by Rifai.

The Puerto Rican specimens agree in anatomical details with Rifai's description of *P. globifera*. They differ, however, in macroscopic characteristics. The fresh apothecia in these collections were pure white and reached a diameter of 11 mm. In the description provided by Rifai, *P. globifera* is said to be "yellow, orange-yellow to light red" and the

apothecia are said to reach a maximum diameter of 4.5 mm. Thus, both the color and the apothecial size of the Puerto Rican specimens vary from that of the lectotype.

A white variety has been proposed for this taxon, Peziza globifera var. etiolata Cooke. This, according to Rifai, does not differ significantly from the typical Pulvinula globifera. Le Gal raised this variety to the species level; erecting P. etiolata (Cooke) Le Gal. Rifai (1968) has discussed fully the taxonomy and nomenclature of this name. He has found that Le Gal's concept of P. etiolata does not agree with the type of Cooke's variety, thus the name is misapplied. For this taxon, as defined by Le Gal, he has proposed P. tetraspora (Hansf.) Rifai.

Those who believe in recognizing varieties or forms based on hymenial color and apothecial form, might refer the Puerto Rican specimens to Cooke's variety. At present, however, far too little is known about the genus Pulvinula to pass judgement on the significance of these characteristics. The description and illustrations (Fig. 1, A-D) which follow are based solely on the Puerto Rican collections.

Pulvinula globifera (Berk. & Curt.) Le Gal

Apothecia gregarious to crowded, broadly sessile, 4-11 mm in diam. Disc concave, pure white, in age with buff tints, drying buff. Receptacle cupulate, in age margin often undulate from mutual pressure, surface smooth to slightly tomentose, concolorous with the disc. Ectal excipulum of globose to compressed globose cells intermixed with filamentous cells which are perpendicular to the outer surface and somewhat parallel to one another, 10.2 - 15.3 x 5.1 - 8.5  $\mu$ m. Medullary excipulum of textura intricata 1.7 - 2  $\mu$ m. Subhymenium of textura intricata, the cells more or less parallel to one another. Hymenium 140 - 155  $\mu$ m thick. Asci long cylindrical, tapering toward the forked base, 137.5-

150 x 11.4 - 17  $\mu$ m, 8-spored, with no indication of disintegration of spores or nuclei. Ascospores uniseriate, hyaline, globose, in youth containing several guttules, at maturity containing only one large guttule; 10.2 - 13.6  $\mu$ m in diam. Paraphyses filiform, delicate, 1.6 - 2  $\mu$ m in diam at the tip, sparingly septate and unbranched, tip moderately curved, extending beyond the ascus, contents granular but pigment globules lacking.

Habitat and distribution: on clay soil among mosses, Puerto Rico.

Specimens examined: on clay bank among mosses, Rio Duey, Rosario, Puerto Rico, elev. 140 m. D. H. Pfister (415) and Brigid Pfister 30. X. 1971 (CUP); on bank among mosses, location as above, D. H. Pfister and Cathleen Pfister, 9. IV. 1972 (CUP).

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Fig. 1 (A-D). Camera lucida drawing of Pulvinula globifera (scale in A equal to 30  $\mu$ m, in B-D equal to 10  $\mu$ m). A. Asci with ascospores. B. Ascospores. C. Paraphyses apices. D. A portion of the ectal excipulum.

